DLY6250
Videowall System

Installation and Operation Manual

Model DLY6250 Videowall System

Model DLY6240 Videowall Controller

Models DLY6230 LCD Panels

Table of Contents DLY6250 Videowall and DLY6240 Controller	Page
1. Preface DLY6250 Videowall System	**3**
2. Introduction LCD Videowall Panel Units	3
3. Dante Security LCD Videowall Features	3
High Definition, Brightness and Color Saturation	2
Slim Edge Design	4
Combination and Selection, Flexibility in Sizes	4
Flexible Combination Display Functions	4
Advanced Screen Parameter Auto-adjustment function	4
Green Environmental protection	4
Stable Operation, Long Life-span, Reduced Maintenance Cost	5
Stylish Videowall Body Wall Framework	5
4. Dante Security LCD Videowall Feasibility	5
5. Dante Security LCD Videowall Reliability	5
6. Dante Security LCD Videowall Cost Effectiveness	5
7. Dante Security LCD Videowall System Framework and Makeup	6
Dante Security DLY6250 LCD Combination Panel Videowall	7
8. How to Calculate Display and Appearance Dimensions	11
9. Color of Cabinet Enclosure	11
10. Requirements for Installation and Operating Environment	11
10.1 Installation Restriction Compliance	11
10.2 Position of Control Room Compliance	11
10.3 Restrictions of Lighting	11
10.4 Restrictions of Wiring	12
10.5 Air Conditioning Compliance	12
10.6 Power Source	12
10.7 Operating Environment Compliance	12
11. 19" 4 x 16 Designs	13
12. Traffic Surveillance Control Room Videowall	16
13. Specifications of 19”, 40” and 46” LCD Panels	17
DLY6240 Videowall LCD-Controller	**18**
1. Features	18
2. Specifications for DLY6250-4x16-19 64 Panel 19” LCD Videowall	19
3. Components	19
Controller Front Panel View	20
Controller Rear Panel View	20
INSTRUCTIONS	20
4. System Activation	21
Display Number & Automatic Video channel assignment	21
Brightness & Contrast Ratio	21
Display Modes	22
5. Trouble Shooting	22

1. Preface

The DLY6250 LCD Videowall panel system is state of the art product from Dante Security employing advanced multiplexing high-speed image frequency signal processing technologies with high-speed transmission. LCD Videowalls are produced with display technology of high luminance, brightness, color, built-in hardware combination technologies, multiple image processing and signal switch technologies. The result is equipment with brightest, high definition, high color saturation, long life and low power consumption.

2. Introduction of LCD Videowall — LCD Panels Unit

Dante Security CCTV LCD Panels DLY6230 Series, provide high luminance, high contrast ratio, enhanced color saturation, wider viewing angle, higher reliability, non-flicker images and long product life cycles.

Brightest LCDs – provide brightness 300cd/m2 (19" model); 1200cd/m2 (40" & 46" models)

High Contrast Ratio - double the contrast ratio over common LCD Panels and triple over most DLP Panels

High Color Saturation – DLY6250 Videowall employs advanced color calibration technology, enhancing both still and moving images

Wider Viewing Angle - combination units employ advanced display and backlighting technologies, making possible a viewing angle of 178°

Higher Reliability - unlike common televisions and PCs, our LCD Panels are specially designed to perform smoothly and safely under continuous operation

Non-flicker Display – as a result of the nature LCD display operation, there is no flickering in images - entire screen is illuminated smoothly and evenly

Longer Life-Span - backlighting lamps in DLY6250 Videowall units feature a service life of over 60,000 hours - units will perform at the same level after longer service, with consistency of brightness, contrast ratio and color

3. Dante Security LCD Videowall Features

High Definition, Brightness and Color saturation

Definition, brightness and color saturation are the three very important features of LCD Panels. Dante Security LCD Videowall employs the latest technologies of digital signal processing and combination processing digital algorithm together with the advanced DID LCD panel. Our LCD Videowall provides High Definition, Brightness and Color saturation.

Slim Edge Design

LCD monitors are usually quite thick, because of using back lamps as light source. So its edge is wide. The border width of normal 19” LCD panel is over 15mm, if it was used, the combination edge would be more than 30mm. That will affect the visual performance. Dante Security combination wall uses DID LCD panel, the unique slim edge design makes the edge less than 9mm, so that visual performance for the whole combination wall is wonderful.

Sizes & Slim edge

Model	Unit Size	Slim edge
DLY6230-19-5 19” LCD	396mm×324mm	Vertical□18mm Horizontal□20mm

Combination and Selection, Flexibility in Sizes

Customers may choose the number of rows and lines, and the size of monitor units to create a solution that best suit the requirement. Available are

DLY6230-19-5 19” LCD
DLY6230-40-5 40” LCD
DLY6230-46-5 46” LCD

Flexible Combination Display Functions

Dante Security LCD Videowalls support individual display to meet different users and different operation environment requirements. It also may be selected for single screen display, full screen display, any Videowall display, image cruise, image super-impose, image stretch, dragging and image overlapping.

Advanced Screen Parameter Auto-adjustment function

In order to avoid effect of disperse parameters from each LCD panel and driving circuit, Dante Security LCD combination Panel applies its unique Panel Wall parameters (brightness, contrast, color saturation, white balance) auto-adjustment function.

Green Environmental protection

Compared to CRT and DLP video Wall, LCD Videowalls consume less power, emit no radiation, do not flicker, are visually better protected, carry no hazardous substances (lead, mercury-halide gas, cadmium, chromium, etc). It is the new generation of green environmental protection Videowall.

Stable Operation, Long Life-span, Reduced Maintenance Cost

Currently, LCD technology is the most advanced in the Flat display products area. Dante Security Videowall provides a life-span of more than 60,000 hours and the image quality keeps the same even after long time operation. The equipment features reduced maintenance and repair costs.

Stylish Videowall Body Wall Framework

Dante Security LCD Videowall body thickness is 200mm-240mm. The cabinets are constructed of rugged steel. They provide a simple, stable, reliable, space saving integrative housing solution for combined wall units.

4. Dante Security LCD Videowall Feasibility

Customers may choose the number of rows and lines, and the size of monitor units to create solutions for specific requirements. Customized solutions are design/built for individual customers to best suit their needs, according to the size, purpose and scale of the system. Customers may choose from various signal input connectivity: VGA, complex CV (optional), S-Video (optional), Ypbpr/Ycbcr (optional), to match with their applications.
To switch from different display modes, signal sources, picture stretching, dragging, overlapping, etc., the LCDs are controlled via RS-232 connection to a DLY6240 controller.

5. Dante Security LCD Videowall Reliability

Only professional CCTV panels are used in the Series DLY6250 Videowall units. These units may work 24 hours a day, 7 days a week, 365 days a year continuously, with no need to shut down. This not only ensures the reliability of the Videowall, but also reduces the likelihood of shutting down the surveillance system.

6. Dante Security LCD Videowall Cost Effectiveness

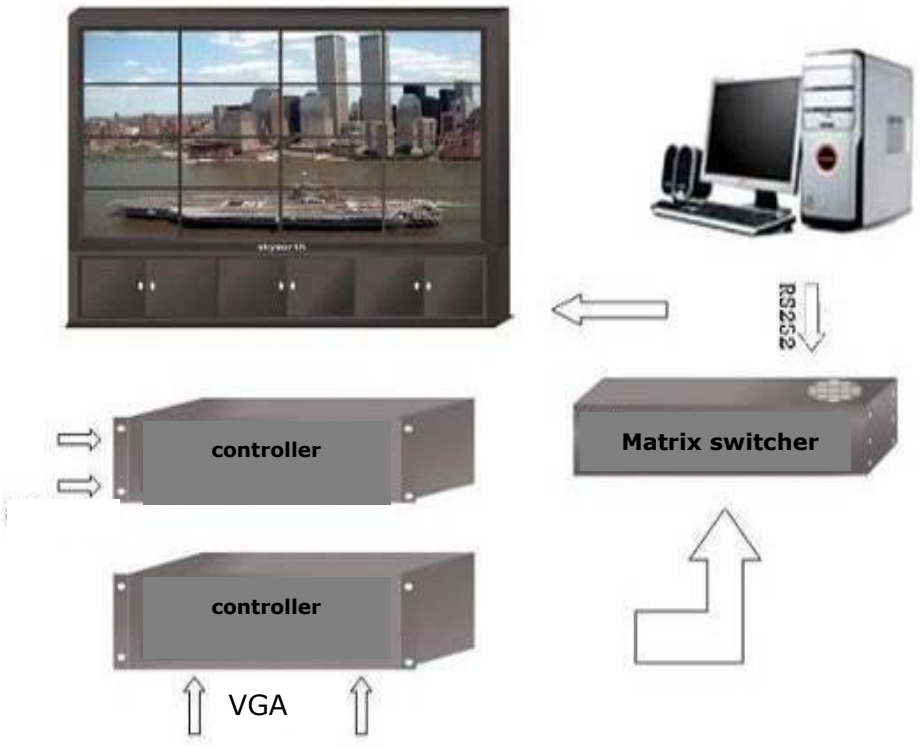
In the following paragraph, a comparison of prices and maintenance costs of LCD, plasma and DLP combination solutions is described.

Plasma combination walls are very costly. Plasma technology will imprint on the panel screen, especially while displaying still pictures for a long time. The result is unacceptable and unsuitable for CCTV surveillance applications.

DLP combination walls are also costly and not only the original purchase price. There is the added annual replacement cost of the backlighting bulbs on each panel. Additionally, there is greater cost of the maintenance. A DLP based system overall cost is not very effective.

LCD combination walls outperform the above mentioned technologies with excellent performance, initial price, over 60 thousand service hours, high stability and low maintenance cost. LCD combination walls provide the highest cost performance ratio.

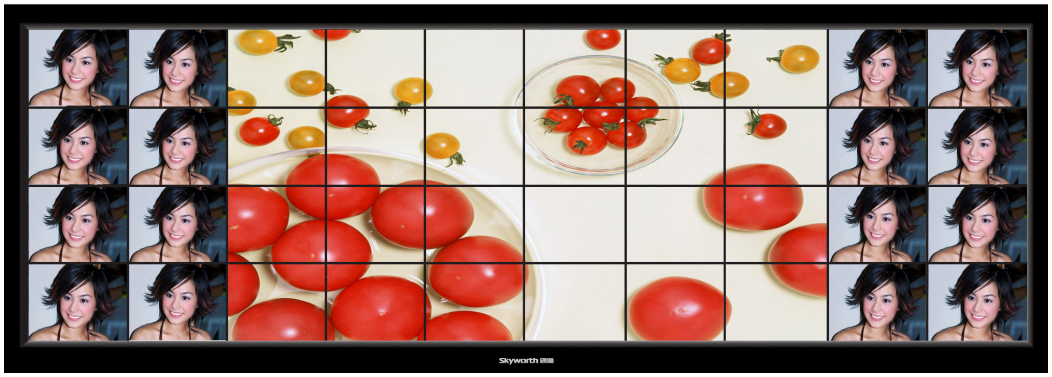
7. Dante Security LCD Videowall System Framework and Makeup



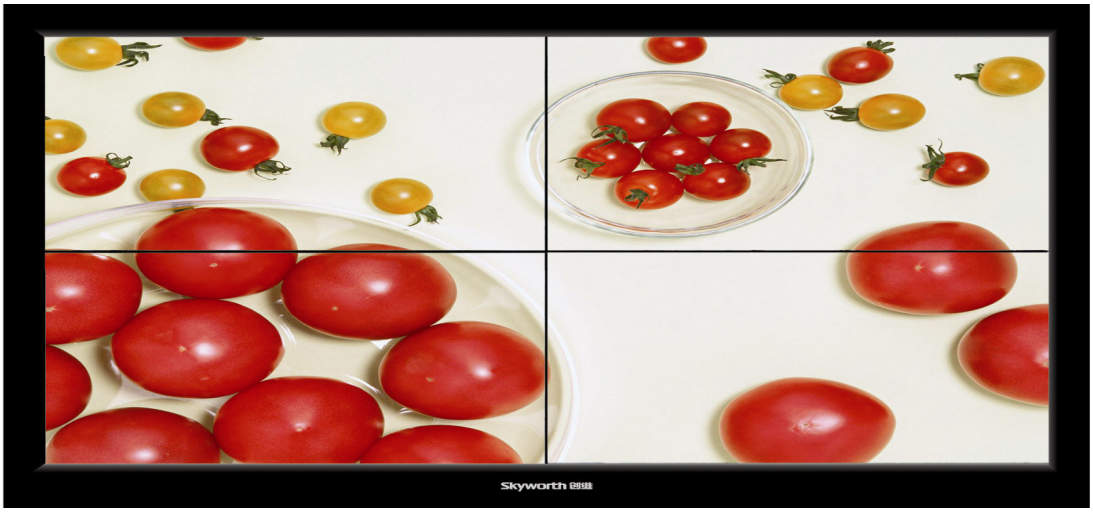
Dante Security LCD Videowall Components

Included are: Housing Cabinet Frame, LCD Panel Units, LCD Controller, Control Software and Cables. Additionally Customers should prepare for themselves: VGA/CV Matrix Switcher, Windows based PC Computer for control operation (minimum Pentium 4 configuration; motherboard must have RS-232 port).

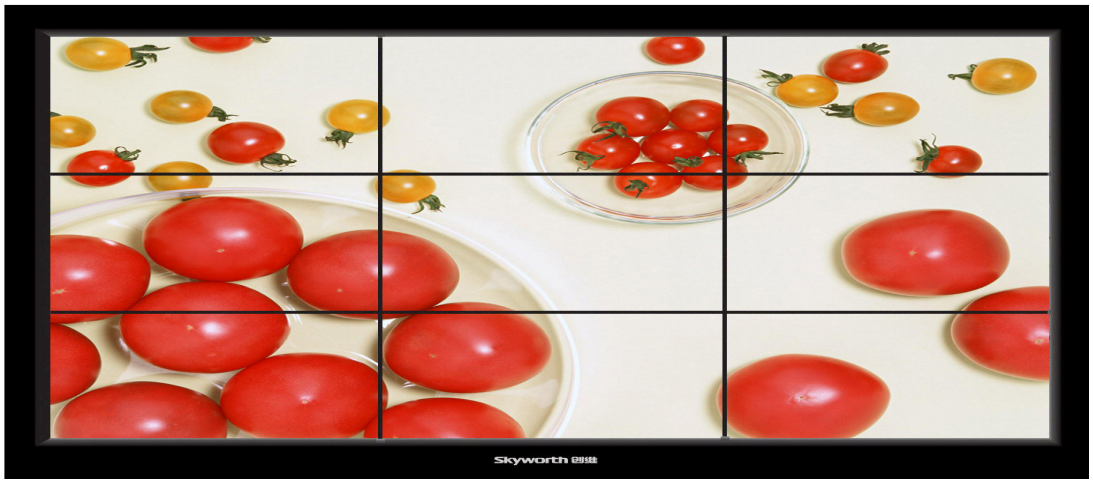
Examples of Dante Security DLY6250 LCD Combination Panel Videowall



DLY6250-4x10-19 System: 4×10 19” LCD Combination Panel Videowall



DLY6250-2×2-46 System: 2x2 46” LCD Combination Panel Videowall



DLY6250-3x3-46 System: 3x3　46″ LCD Combination Panel Videowall

DLY6250-4x6-19 System: 4×6　19″ LCD Combination Panel Videowall - Actual Photo

DLY6250-2x2-46 System (center): 2×2 46” LCD Combination Panel Videowall - Actual Photo

DLY6250-4x9-40 System: 4x9 40″ LCD 4×9 Combination Panel Videowall - Actual Photos

How to Calculate Display and Appearance Dimensions

The size of LCD Combination Walls is calculated by the units of LCD Combination Walls (length x height) and the individual LCD unit dimension. For example, 3 x 3 19" is made up of total 9 units of 19" Combined Units; 19" Combination Unit's - Length：396mm x Height：324mm = LCD Combination Wall's Length 3 x 396= 1188 mm; Height: 3 x 324= 972mm，choose different installation model according to installation environment, and add the measurement of frame and the dimension of upright pedestal，the result will be the dimension of LCD Combination Wall.

9. Color of Cabinet Enclosure

The color of outline border of Combination Panel is silver gray. The color of the wall cabinet is dark gray. The combined color of Videowall and cabinet are professionally matched.

10. Requirements for Installation and Operating Environment

In order to ensure a successful installation and long life system operation, the location of equipment should meet the following environment qualifications:

10.1 Installation Restriction Compliance

1. The floor should be flat, able to withstand the weight of the equipment and suffer no warping over the life cycle of the system
2. The floor includes antistatic finish in order to reduce risks of electric discharges

10.2 Position of Control Room Compliance

1. For convenience of operation, the position of operator work station should be opposite (facing) the Videowall displays. If there is a separate control room, there should be transparent glass between the control room and Videowall display.
2. The operator work station should be installed at a reasonable distance away from the Videowall in order to control and adjust screen colors conveniently.
3. Image controller should be installed close to the Videowall connection ports to reduce the length of RGB cables.

10.3 Restrictions of Lighting

1. The overhead lighting must be installed in a manner that prevents direct reflection on the screens. Install 3 meters distance from walls to ensure the best lighting quality
2. Any large the windows in the control room should be covered with curtains to prevent direct sunlight that may reflect on display screens

10.4 Restrictions of Wiring

1. RGB, Composite video, network, port, mouse and keyboard cables must be wired away from high voltage electric cables in order to avoid interference with signals. If installed in conduit, use separate conduits than the ones populated with electric wires.
2. If it is a solid surface like bricks or plywood, there should be cable trays used for specific signal sources: computer RGB signal, video signal, computer and image controller. To ensure the best signal quality, reduce wiring distance as much as possible.
3. If it is antistatic surface, isolate exits for wire terminals.

10.5 Air Conditioning Compliance

1. To ensure long operating life cycle, the Videowall must be installed in a controlled temperature environment with air conditioning. If no air-conditioner exists, user should install one according to the scale of the planned Videowall.
2. Temperature range in the control room must be suitable for high energy released by the equipment.

10.6 Power Source

In the case of power outages, the Videowall system has power loss protection design to ensure the equipment may continue to operate normally and safely.

1. The input power of system is 100-240VAC ±5% auto range. Use grounded power sockets. The number of sockets depends on the number of monitor units.
2. Videowall, image controller and PC controller require the same power supply source.
3. The voltage of power should be steady and reliable, avoid sudden electric surges after power has been off. All power supplies of the Videowall system should be backed up by UPS with specified power range.
4. The whole system must be well grounded, resistance <2Ω, to minimize the risk of damage from lightning strike.

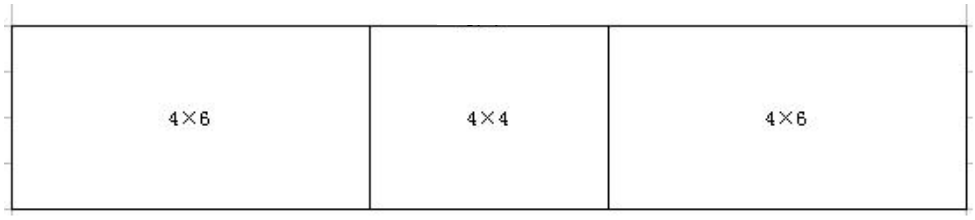
10.7 Operating Environment Compliance

1. The back of Videowall system is used to maintain the LCD displays and the space requirement for maintenance is more than 0.6 meter (24 inches).
2. The room which furnishes the Videowall requires good temperature and humidity control. The environment temperature required is 23°C ±5°; relative humidity is 20%～80%.
3. User should maintain even temperature and moisture range between the front and rear sides of the panel wall, to ensure balanced temperature for entire Videowall.
4. The control room which houses the Videowall should be clean and dustproof.
5. Portable fire extinguishing equipment should be installed away from the Videowall.

11. 19” 4×16 Designs

DLY6250-4x16-19 System: 4 X 16 19” LCD Videowall

Configuration 1:

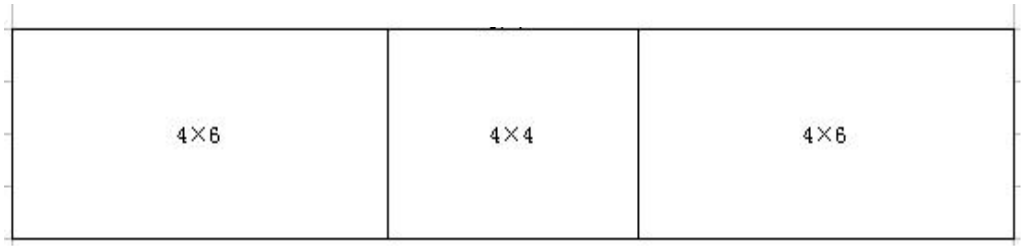


The Videowall:
1) 64pcs 19” LCD Videowall panel units may be combined to produce a 4×16 LCD Videowall. To control the system, the signal input port of video controller Series DLY6240 links with video signals of Matrix Switchers such as Dante Security Series DLH4200B (up to 48x16 input/outputs) or DLH4400E (Enterprise Bay style – 4096x512 input/outputs) directly. By operating the controller, the system may create/combine any combination limited by the number of screens.

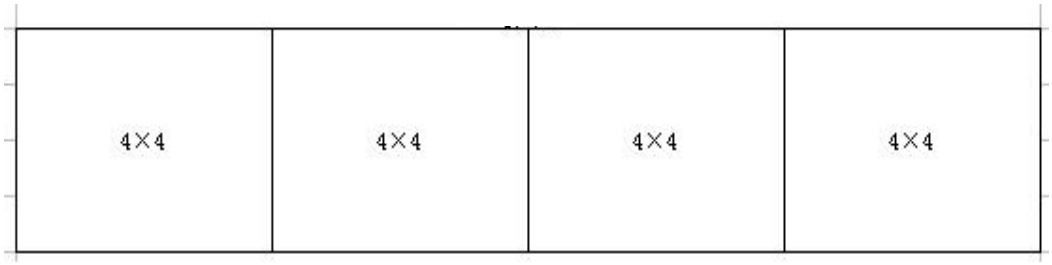
2) The DLY6240 Video Controller (64 CV input ports, 1 VGA input port), connects via its 64 CV input to every 19” LCD combination panel units for the video signals. It also connects through RS-232 port to in order to switch video screen combinations

3) The customer may configure any combination through the controller, below are some examples.

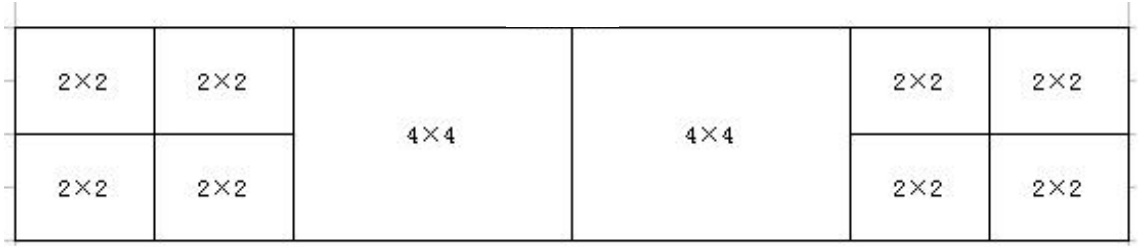
Configuration One:



Configuration Two:



Configuration Three:



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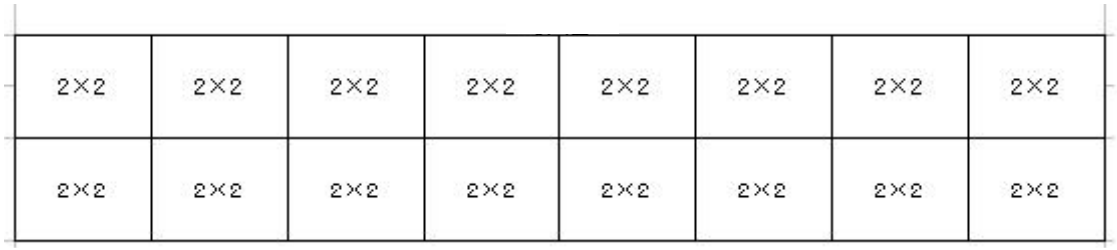
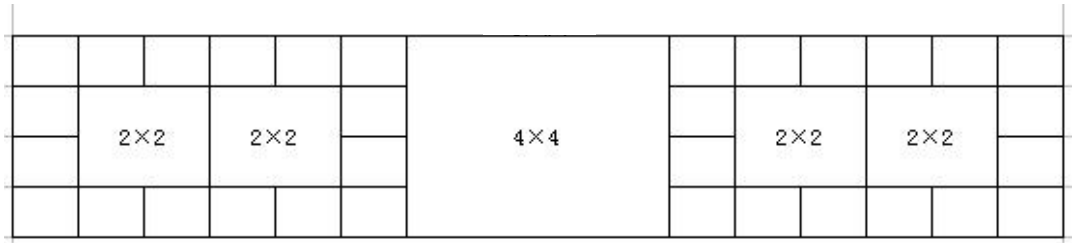
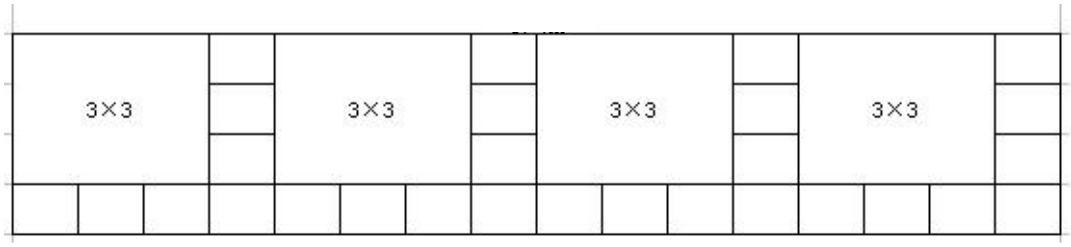


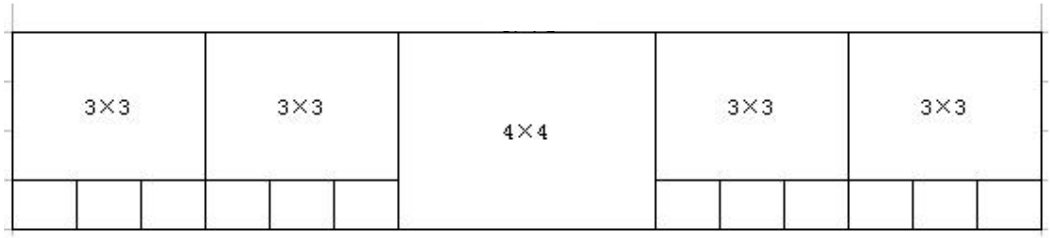
Configuration Five:



Configuration Six:

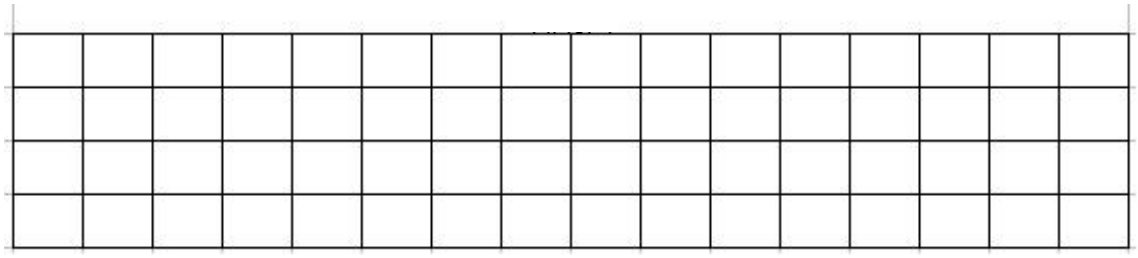


Configuration Seven:



Configuration Eight:

Configuration Nine:



4) 19” LCD combination edge illumination: single vertical edge 9mm, combined 18mm; single horizontal edge 10mm. Combined 20m; thickness of the wall (excluding housing): 180-200mm.

12. Traffic Surveillance Control Room Videowall

13. Specifications of Available LCD Panels

Model Number	DLY6230-19-5	DLY6230-40-5	DLY6230-46-5
Panel Diagonal Dimension	19"	40"	46"
Horizontal Viewing Area	376mm	885mm	1018mm
Vertical Viewing Area	301mm	498mm	573mm
Panel Aspect Ratio	4:3	16:9	16:9
Resolution	1280×1024 SXGA	1366×768 WXGA	1366×768 WXGA
Standard Color	16.7M	16.7M	16.7M
Max Color	Full color	Full color	Full color
Panel type	TFT-LCD	DID TFT-LCD	DID TFT-LCD
Brightness	300cd/㎡	700cd/㎡	700cd/㎡
Contrast Ratio	1000:1	1200:1	1200:1
Response Time	8ms	8ms	8ms
Video Format	NTSC/PAL	NTSC/PAL	NTSC/PAL
Composite Input	Video 75Ω 1Vp-p	Video 75Ω 1Vp-p	Video 75Ω 1Vp-p
Input signals	CV/VGA/YUV	CV/VGA/YUV	CV/VGA/YUV
YUV Resolutions	1920×1080i/50Hz(60Hz)	1920×1080i/50Hz(60Hz)	1920×1080i/50Hz(60Hz)
	1920×1080P/60Hz	1920×1080P/60Hz	1920×1080P/60Hz
	1280×720P/60Hz	1280×720P/60Hz	1280×720P/60Hz
	640×480P/60Hz	640×480P/60Hz	640×480P/60Hz
Viewing Angle	178°	178°	178°
Input Voltage	100～240VAC, 50/60Hz	100～240VAC, 50/60Hz	100～240VAC, 50/60Hz
Power Consumption	50W	220W	270W
Operating Temperature	0℃～40℃	0℃～40℃	0℃～40℃
Relative humidity	10%～90%	10%～90%	10%～90%
Storage Temperature	-20℃～50℃	-20℃～50℃	-20℃～50℃
Relative humidity	10%～90%	10%～90%	10%～90%
Dimensions	396mm × 324mm	911.7mm × 524.2mm	1047.4mm × 600.6mm
Net weight	2.25Kg	12.5kg	18kg

DLY6240 VIDEOWALL LCD-CONTROLLER

Warnings

Read through this user manual section before installing or operating this controller

Make sure the case of the controller is grounded at installation, to prevent short circuit

Do not block the ventilation holes to ensure adequate cooling capacity

Do not allow anything to drop or be inserted into the equipment

Should a malfunction occur, consult technical support of the manufacturer

To prevent damage, use soft cloth to gently wipe Display screens

Do not use corrosive cleaners on the equipment

1. Features

a) Output Signals from the controller are not attenuated or compressed. High quality, clear and smooth images

b) 8 preset combined display modes, along with added custom options

c) Three input signal formats: Composite Video/Yuv/VGA

d) Adjustments for brightness, contrast ratio and display modes of LCD units

e) V12 picture enhancement function producing vivid display

f) Allows real time adjustment through advanced settings to synchronize displays on various screen LCD Panels

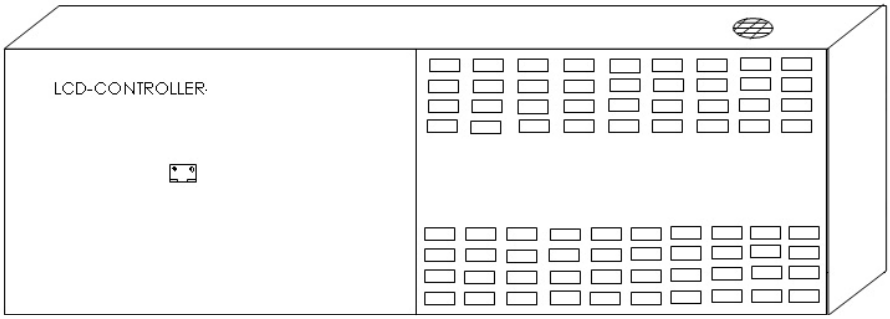
g) Picture freeze function on any individual or combined display images

2. Specifications for DLY6250-4x16-19　64 19" Panel LCD Videowall

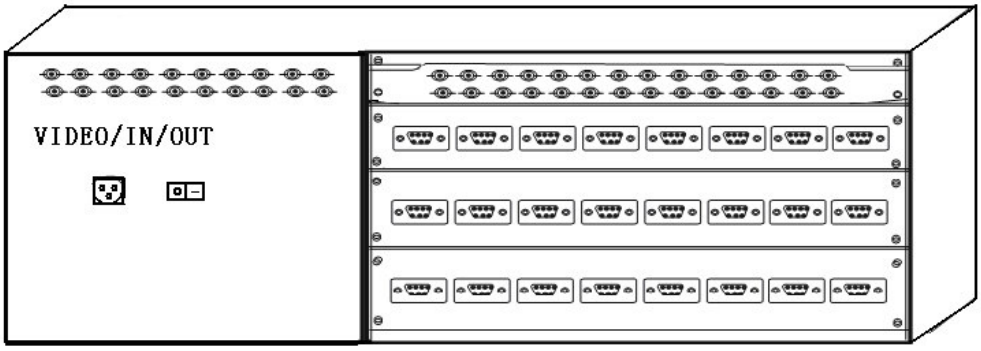
Model		LCD-CONTROLLER DLY6240
Video	Input	1Vp-p 75Ω BNC x 64
	Output	1Vp-p 75Ω BNC x 64
	Format	NTSC/PAL
COM Port		COM RS-232，9PIN DB9 x 64
Ethernet Port		Standard 10/100Mbps Ethernet，RJ-45 port，8 PIN bi-color LEDs
Communication Hub	Communication Port	COM RS-232，9PIN DB9
	Ethernet Port	Standard 10/100Mbps Ethernet，RJ-45 port 8 PIN bi-color LEDs
	USB Port	USB 2.0
Operating Environment		Temperature 0°C～+40°C; Humidity 0～95%
Electrical Requirement	Power	100-240VAC　50-60Hz
	Consumption	10W Max.
Hardware Support	PC	Minimum Config: Intel P4;　Memory: 512MB DDR USB 2.0 port；COM RS-232
Software Support	Operating System	Windows XP Professional
	Control & Management software	DANTE SECURITY　MTW Manager

3. Components

1: COM RS-232 Cable 1.5M×1
2: USB 2.0 Cable 1.5M×1
3: AC power cord 1.5M×1
4: Communication Hub×1 RS-232 to USB Converter
5: User Manual×1
4. Drawing of Controller



Controller Front Panel View



Controller Rear Panel View

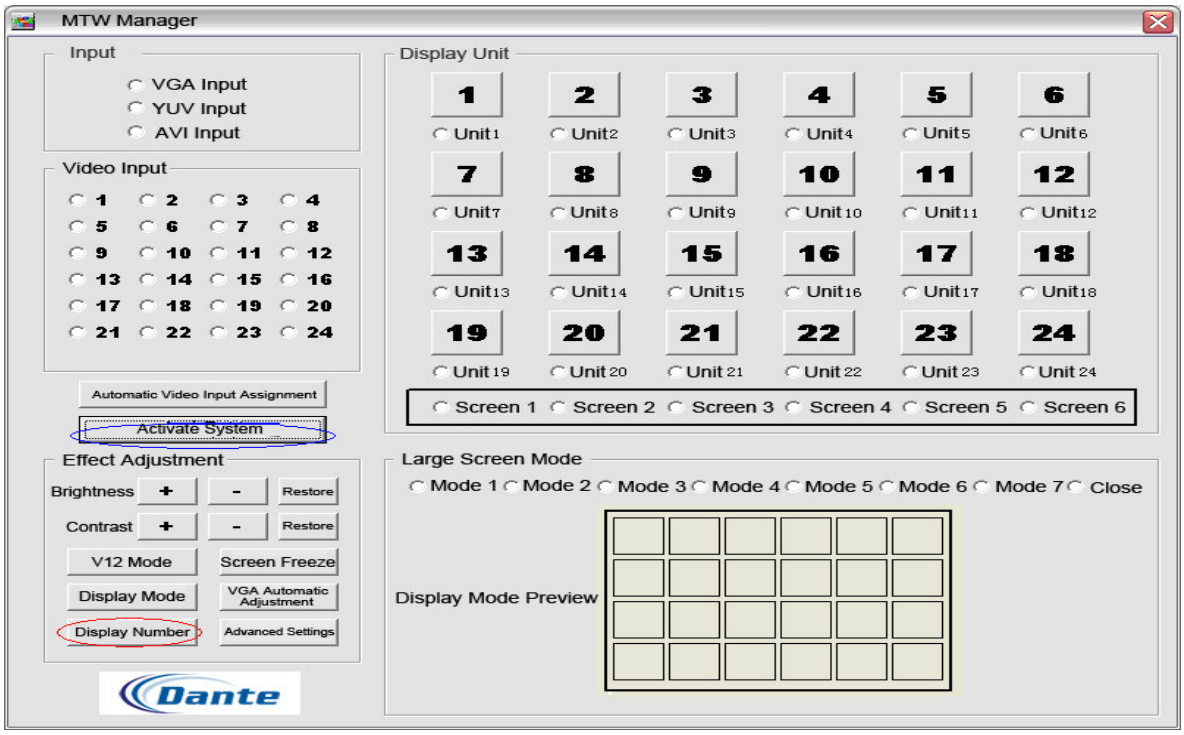
INSTRUCTIONS

1. Connect cables, including CV in/out, RS-232 and Ethernet;

Note: COM RS-232 cable and CV in/out connections must match corresponding Monitors

2. Plug on the AC cord, switch on the power

3. Start the PC, install Dante Security MTW Manager (supplied by manufacturer), click on "MTW Manager" in Start menu and the control panel appears on desktop as shown below:


MTW Manager
Input
VGA Input
YUV Input
AVI Input
Video Input
1 2 3 4
5 6 7 8
9 10 11 12
13 14 15 16
17 18 19 20
21 22 23 24
Automatic Video Input Assignment
Activate System
Effect Adjustment
Brightness + - Restore
Contrast + - Restore
V12 Mode
Screen Freeze
Display Mode
VGA Automatic Adjustment
Display Number
Advanced Settings
Dante
Display Unit
1 2 3 4 5 6
Unit1 Unit2 Unit3 Unit4 Unit5 Unit6
7 8 9 10 11 12
Unit7 Unit8 Unit9 Unit10 Unit11 Unit12
13 14 15 16 17 18
Unit13 Unit14 Unit15 Unit16 Unit17 Unit18
19 20 21 22 23 24
Unit19 Unit20 Unit21 Unit22 Unit23 Unit24
Screen 1 Screen 2 Screen 3 Screen 4 Screen 5 Screen 6
Large Screen Mode
Mode 1 Mode 2 Mode 3 Mode 4 Mode 5 Mode 6 Mode 7 Close
Display Mode Preview

4. System Activation

Click "System Activation" button, key in password (default password: Dante Security).

Two pilot lights shall be on; the controller and the communication hub shall be on at this stage.

Display Number & Automatic Video channel assignment

Click the "Display Number" and "Automatic Video Assignment" buttons, numbers for all screens and auto assigned pictures shall be shown

Brightness & Contrast Ratio

Click the "+" and "–" buttons by the "Brightness" and "Contrast Ratio" symbols (one at a time) to adjust individual or combined picture brightness and contrast ratio. Click the "reset" button to return to manufacturer default settings
Note: Must conduct these operations under large screen display mode.

Display Modes

Click "Display Modes" button to access control of display modes of individual screens. There are 5 alternatives: Standard, Vivid, Actual color, smoothened, and customized.

V12 Mode

Click the "V12 Mode" button to optimize and enrich colors of individual screens

Freeze Screen

Click the "Freeze Screen" button to freeze picture of individual or combined screens

Automatic VGA Adjustment

Under VGA mode, click the "Automatic VGA Adjustment" button; the system will adjust the positions, color, contrast ratio and liners of all individual screens to create the combined picture look

Advanced Settings

Click the "Advanced Settings" button, then enter user password to access advanced settings. (Manufacturer preset password: Dante Security)

In advanced settings you can adjust horizontal and vertical positions, horizontal and vertical resizing, to optimize the display quality of combined picture

5. Trouble Shooting

1. When starting the system, there is a message:" communication error"

A. check the cable between communication hub and PC, see if there is good connection
B. check the cable between communication hub and controller, see if there is good contact

2. After click "Display Number", no number appears on some unit

Please check the cable connection between Videowall LCD rear panel RS-232 port and controller

3. After activating unit with "Automatic Video Input Assignment", unit does not have signal

Please check the specific LCD rear panel power cable, see if the is good contact